Task: 5544

State of Utah
DEPARTMENT OF NATURAL RESOURCES

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September 26, 2013

Lantz Indergard
Lisbon Valley Mining Company LLC
PO Box 400
Moab, Utah 84532

Subject: Initial Review of Proposed Amendment to Notice of Intention to Commence Large Mining Operations, Lisbon Valley Mining Company LLC, Lisbon Valley Mine, M/037/0088, San Juan County, Utah

Dear Mr. Indergard:

The Division has completed a review of the referenced amended Notice of Intention to Commence Large Mining Operations (Notice) which was received July 11, 2013. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages using **redline and strikeout** text. After the notice is determined technically complete, the Division will ask that you submit two clean copies of the complete and corrected plan. Upon final approval, both copies will be stamped approved and one will be returned for your records.

The Division will suspend further review of the Notice until your response to this letter is received. If you have any questions in this regard please contact Mike Bradley at 801-538-5332 or me at 801-538-5261. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: mpb: eb
Attachment: Review
cc: Rebecca Doolittle, Moab FO, BLM
P:\GROUPS\MINERALS\WP\M037-SanJuan\M0370088-LisbonValley-Summo\Final\Rev1-5544-09242013.docx

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UTAH DNR
OIL, GAS & MINING

FIRST REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Lisbon Valley Mining Company
Lisbon Valley Mine
M/037/0088
September 26, 2013

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	The submittal should be formatted to easily incorporate additional revisions and amendments. (Comment only; no response required.)		
2	General	The Division may have additional comments based on the review responses. (Comment only; no response required.)		

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
3	PDF Document pg 8	The Centennial Pit straddles both BLM and SITLA land. This proposed modification to the Notice will require review and approval from both agencies. (Comment only; no response required.)	mpb	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
4	Figure 1	On Figure 1 please provide some type of geographic reference, such as UTM coordinates (NAD 83) or latitude and longitude.	whw	
5	All Maps	Although the Penny Pit and Keystone Pit locations are described in the text, please identify their locations and boundaries within the Centennial Pit on the maps.	mpb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment	Sheet/Page/	Comments	Initials	Review

#	Map/Table #			Action
6	PDF document page 14, Reclamation Plan and all maps	The contour maps and cross sections provided do not show an ingress/egress route from the pit bottom to the surrounding surface. They show only benches with walls too steep to safely enter or exit the pit. Please revise contours to show a safe ingress and egress route or show final surface grades in topography and cross sections that illustrate the "partial inundation" of highwalls and benches with waste rock so that continuous, stable slopes less than 1V:1H will exist to allow wildlife to maneuver in and out of the pit safely to facilitate the proposed post mining land use.	mpb	

R647-4-106 - Operation Plan

General Operation Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
7	ARCADIS document	The ARCADIS document included within the submittal is shown as a "Draft." The Division needs the final version of this study.	mpb	
8	Operation Plan, page not numbered (Page 12 of pdf)	The operation plan section discusses backfilling being done according to the "Mine Plan" (a.k.a. "Plan of Operations" (Plan)?). Earlier plans do not include backfilling of pits. We may assume this statement refers to a plan modification to backfill the Sentinel Pit approved in 2009 as later referenced, but please identify by approval date which plan modification this statement refers to and provide a brief discussion of how this proposal relates to it.	mpb	
9	Operation Plan	Without compaction of the backfill, there will likely be some degree of settling over time. Are the final elevations shown in the pit cross-sections the depths of uncompacted fill, or depths after some assumed amount of settling? This may be critical for Scenario 2 which brings the backfill level to only 10' above pre-mining groundwater levels.	mpb	

106.4 - Nature of materials mined, waste and estimated tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
10	Rock Characterization and Handling Plans	Identify the lithologies of the "acid-neutral sandstone waste rock" that are to be used as backfill material, including both the bed and rock type for clarity. Testing has identified Beds 6-10 (Rock Types 4 and 5), which are part of the Dakota Sandstone, as possibly acid generating.	pnb	
11	Rock Characterization and Handling Plans	The gradation chart appears to be inconsistent with the statement that "waste rock is blasted into an approximate 36" gradation."	pnb	

12	Rock Characterization and Handling Plans	Backfill is to be comprised of non-carbonaceous portions of the Dakota and Burro Canyon Formations. Consistent with the reclamation plan section, please specifically identify that this backfill will not be acid-forming.	pnb	
13	Rock Characterization and Handling Plans	Based on the MWMP tests done in the past, briefly identify whether the backfilled waste rock should be considered "deleterious" because of metals leaching. Waste rock would be "deleterious" if it would "likely produce chemical or physical conditions in the soils or water that are detrimental to the biota or hydrologic systems" when "exposed by mining operations to air, water, weather or microbiological processes." (R647)	pnb	
14	Arcadis Report, Appendix C (10% runoff)	Table C-2 identifies Bed 12 (Rock Type 12) as being "often pyritic". The annual waste rock report does not yet report the pH of MWMP leachate or concentrations for a complete list of metals, so it is unclear whether Bed 12 is acid forming or otherwise deleterious. In the past it has been reported as not acid forming. In your upcoming waste rock report, provide any clarifying information needed to demonstrate the nature of Bed 12.	pnb	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
15		Please describe where topsoil to cover the final pit floor will come from, the depth of topsoil to be applied, and how it will be deposited and treated prior to aerial seeding.	mpb	

106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
16		See comment #9 in Section 106, General Operation Plan comments, concerning depth to groundwater.	mpb	

106.9 - Location & size of ore, waste, tailings, ponds

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
17	no page #s in report	Reclamation Plan Section: The plan states that all acid-generating waste will be deposited in permitting (permitted?) aboveground dumps at the mine. These areas are not shown on any of the maps provided. Please indicate where any acid-generating material is to be staged. This statement actually contradicts the report itself since no acid-generating rock is anticipated.	aaa	

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
18	Arcadis document, Section 5 & Maps	Pit Water Balance states that the total amount of inflow will come from direct precipitation, runoff from pit walls and groundwater inflow and discusses a berm around the catchment area. On the maps and cross sections, please show the location of the berm that will control inflow of surface runoff from surrounding areas, and provide a brief description of the dimensions of the berm.	mpb	
19	Impact Assessment	Summarize the projected impacts from the finalized Arcadis report of backfilling to groundwater for the range of possible backfilling scenarios and runoff assumptions. For example, explain why modeling suggests that aquifers will be protected even though metals evapoconcentration is anticipated for pit lake scenarios. Report the modeled impacts to water quality resulting from the groundwater flowing through backfill, considering MWMP results.	pnb	
20	Impact Assessment	Identify impacts to water quality from any backfilling on top of acid forming or deleterious materials that might otherwise be exposed either in the pit walls or floor.	pnb	
21	Monitoring Plan	Amend this section to summarize which wells are to be monitored (presumably in both the Burro and N-Aquifers), for which compounds, and how frequently.	aaa	
22	Groundwater Discharge Permit	While reviewing the Groundwater Discharge Permit filed with the Utah Department of Water Quality, it was noticed that the permit on file expired in December 2012. Please provide documentation that the Discharge Permit has been updated and there is a current one on record with DWQ.	mpb	

109.4 - Slope stability, erosion control, air quality, safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
23	Impact Assessment	Summarize impacts to pit slope stability from backfilling from the pit rim, and from buttressing pit slopes within the pit.	pnb	

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
24	PDF	See Comment #6 as it relates to wildlife use of the land after mining.	mpb	

	document page 14, Reclamation Plan and all maps			

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25		Please provide an updated map that illustrates the disposal location of deleterious and acid-forming materials as prescribed by this section.	pnb	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
26		Please provide an updated reclamation surety for the mine. The reclamation cost estimate should be based on the Division's worksheets.	whw	